

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Wireless Telecommunications Bureau Seeks)	WT Docket No. 15-218
Comment on Petitions of Seven Licensees for)	
Waiver of Multichannel Video Distribution and)	
Data Service Technical Rules)	

COMMENTS OF AT&T

I. INTRODUCTION AND SUMMARY

AT&T Services, Inc., on behalf of itself and its affiliates, including DIRECTV, LLC (“DIRECTV”) (collectively “AT&T”), submits these comments in response to the Commission’s Public Notice seeking comment on 49 requests for waiver of certain Multichannel Video Distribution and Data Service (“MVDDS”) technical rules filed by seven MVDDS licensees (“Petitioners”).¹ The Petitioners seek a huge power increase that would overturn the delicate balance the Commission established in the 2002 band-sharing rules to provide an opportunity for MVDDS service provision while at the same time protecting Direct Broadcast Satellite (“DBS”) providers.²

¹ Public Notice, *Wireless Telecommunications Bureau Seeks Comment on Petitions of Seven Licensees for Waiver of Multichannel Video Distribution and Data Service Technical Rules*, WT Docket No. 15-218, DA 15-1017 (Sept. 14, 2015).

² Specifically, Petitioners seek waivers of Sections 101.113, note 11 and 101.147(p) of the Commission’s rules regarding power limits and Sections 101.1407 and 101.1411(a) of the Commission’s rules confining MVDDS operations to one-way services. Through these waivers, Petitioners propose using the 12.2-12.7 GHz band for two-way, point-to-point operation at an Effective Isotropic Radiated Power (“EIRP”) level of up to “55 dBm.” See ULS File No. 0006692050, Go Long Wireless, Ltd. Waiver Request at 2 (“Waiver Request”); Go Long Wireless, Ltd. Supplement at 1 (“Waiver Supplement”).

Since initiating service in 1994, DIRECTV has become the leading provider of DBS digital television services in the United States, serving over 20 million American subscribers.³ It currently has twelve in-orbit spacecraft, five of which operate in the 12.2-12.7 GHz band, which have enabled DIRECTV to maintain and extend its leadership in HD services and set the stage for the introduction of UltraHD services. DIRECTV's spectrum is vitally important for provision of unique and compelling content to millions of consumers. DIRECTV has made significant investments in spacecraft, launches, ground-stations (including tens of millions of subscriber terminals) and, of course, programming. The spectrum sharing rules for MVDDS licensees, which were carefully crafted during the protracted MVDDS proceeding from 1998-2002, are critical to ensuring that DIRECTV's customers are able to receive high quality signals in this band.

Grant of these requests would be contrary to the public interest, for several reasons. First, the waivers would overturn decade-old MVDDS rules adopted after a long and detailed rulemaking involving extensive technical studies balancing the needs of both terrestrial and DBS operations. Second, the Petitioners fail to meet any conceivable burden of proof: the requests contain no link budgets, engineering units, or other technical information of the type required to justify waiver of rules designed to protect DBS from interference. In combination, the proposed high-power, two-way MVDDS operations will cause harmful interference to DBS receivers—exactly what the rules were designed to avoid. For these reasons, AT&T respectfully requests that the Commission deny all 49 of the Petitioners' waiver requests.

³ DIRECTV, Form 10-K for the Fiscal Year Ended Dec. 21, 2014.

II. THE CURRENT MVDDS RULES WERE CAREFULLY CRAFTED TO AVOID INTERFERENCE TO DBS

The Commission's MVDDS rules were adopted over a decade ago as the culmination of a thorough rulemaking grounded on an extensive technical record.⁴ The Commission carefully considered the voluminous comments filed in the proceeding and a Congressionally-mandated study conducted by the MITRE Corp. ("MITRE"),⁵ supplemented by its own analysis, before reaching its conclusion. As Petitioners recognize, the existing rules "reflect[] a carefully crafted balance of technical and policy concerns."⁶ The Petitioners present no compelling reason for the Commission to reverse its well-crafted rules for the band.

Crucially, MITRE's independent testing recognized that terrestrial use of the 12.2-12.7 GHz band could pose a significant interference threat to DBS.⁷ As the Commission recounted, "MITRE's recommendations were based on its performance of the following tasks: measurement of DBS and MVDDS equipment, including antennas and receivers; simulation of satellite receivers; propagation and rain attenuation modeling; and interference predictions."⁸ MITRE considered ten different geographically diverse locations for simulations and used different simulation parameters such as satellite power, MVDDS antenna height and elevation tilt angles,

⁴ See *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, Memorandum Opinion and Order and Second Report and Order, FCC 02-116, 17 FCC Rcd. 9614 (2002) ("*Second R&O*").

⁵ In 2000, Congress enacted Section 1012, "Prevention of Interference to Direct Broadcast Satellite Services," which required the Commission to arrange for independent testing of "any terrestrial service technology proposed by any entity that has filed an application to provide terrestrial service" in the 12 GHz band. 47 U.S.C. § 1110.

⁶ Waiver Request at 2.

⁷ *Second R&O* ¶ 56.

⁸ *Id.* ¶ 57.

and frequency offset.⁹ Based on these efforts, MITRE determined MVDDS could share the 12.2-12.7 GHz band only at low powers and confined to unidirectional transmissions in order to minimize potential interference to DBS customers.¹⁰

After an intensive four year rulemaking process, the Commission adopted rules based largely on MITRE's conclusions. It protected DBS consumers by limiting MVDDS to an EIRP limit of 14 dBm/24 MHz.¹¹ The FCC also constrained MVDDS licensees' use of the band to one-way operations, permitting two-way services only for the downstream path when the upstream or return path was transmitted elsewhere or via wireline.¹² Agreeing with the MITRE study, the Commission found allowing two-way transmissions in the 12.2-12.7 GHz band "would unnecessarily complicate the sharing scenario," and "would significantly raise the potential for instances of interference among the operations."¹³

Petitioners now seek waivers of these carefully crafted rules. The Commission must deny these waiver requests to avoid a taking a significant regulatory step backwards. When the Commission first developed the DBS service in the early 1980s, there were operational-fixed microwave systems licensed in the 12.2-12.7 GHz band.¹⁴ The Commission gave advance notice that when DBS launched, "terrestrial licensees in the 12 GHz band will be required to make whatever adjustments in technical parameters or assigned frequencies necessary to prevent

⁹ *Id.* ¶ 58.

¹⁰ *Id.*

¹¹ *Id.*, ¶ 60. *See* 47 C.F.R. §§ 101.113 n.11; 101.147(p).

¹² *Second R&O*, ¶ 4. *See* 47 C.F.R. §§ 101.1407; 101.1411(a).

¹³ *Second R&O* ¶ 137.

¹⁴ *Inquiry into the Dev. of Regulatory Policy in Regard to Direct Broad. Satellites for the Period Following the 1983 Reg'l Admin. Radio Conference*, Report & Order, 90 F.C.C.2d 676, 699, ¶ 60 (1982) ("DBS R&O").

harmful interference to operating DBS systems.”¹⁵ This statement warned existing fixed service users that they could be reassigned outside the 12 GHz band.¹⁶ The Commission later reiterated that the public interest benefits of DBS justified adjustments to co-frequency services.¹⁷

The MVDDS service rules were fully consistent with this FCC recognition of the public interest benefits of DBS service. The FCC would not permit MVDDS licensees to use higher power limits over regions unpopulated at that time “because the higher power may cause too great of an exclusion zone for future DBS and NGSO FSS subscribers.”¹⁸ The Commission correctly recognized that “a higher power benefit for MVDDS providers would not offset the potential constraints placed on other service subscribers in the 12 GHz band.”¹⁹

This reasoning remains equally valid today as it was in 2002. Grant of the Petitioners’ waiver requests would create substantial, new exclusion zones for the DBS-receiving public. There is no reason to imperil the public interest benefits to American DBS consumers. Accordingly, the Petitioners’ waiver requests should be denied.

III. THE MVDDS LICENSEES’ REQUESTS PROVIDE INSUFFICIENT DETAIL TO MEET ANY BURDEN JUSTIFYING WAIVER

The Petitioners’ waiver requests fall far short of satisfying the standard for justifying a waiver of the Commission’s MVDDS rules. In order to justify a waiver, a petitioner must

¹⁵ *Inquiry into the Dev. of Regulatory Policy in Regard to Direct Broad. Satellites for the Period Following the 1983 Reg’l Admin. Radio Conference*, Notice of Proposed Policy Statement & Rulemaking, 86 F.C.C.2d 719, ¶ 36 (1981).

¹⁶ *Id.*

¹⁷ *Regulatory Policy Regarding the Direct Broad. Satellite Serv.*, Memorandum Opinion & Order, 94 F.C.C.2d 741, 744 ¶ 6 (1983).

¹⁸ *Second R&O* ¶ 198.

¹⁹ *Id.* Indeed, higher power MVDDS could spark a “power war” in the band, where each licensee has the incentive to build higher emission equipment, thus vitiating any benefit of waivers.

demonstrate, in light of all pertinent factors, that such a waiver would serve the public interest without undermining the policy which the rule in question is intended to serve.²⁰ The Petitioners' barebones waiver requests utterly fail to meet this standard. As noted above, the Petitioners cannot demonstrate that the policy behind the MVDDS rules—protection of DBS from harmful interference—would not be undermined by grant of their requests. In addition, the Petitioners offer scant information to justify setting aside the agency's sound judgment in technical and specialized matters under its mandate.

To begin with, the Petitioners' technical materials are questionable at best. It is unclear what signal level the waiver seeks at all. The document requests "power utilization up to 55 dBm,"²¹ without specifying the bandwidth: per Hz, per MHz, per 24 MHz, or per 500 MHz. Presumably, the Petitioners want to waive the current 14 dBm/24 MHz level in favor of signal levels up to 55 dBm/24 MHz, but the documentation does not say that. Similarly, the waivers are founded on the observation that "a narrow beam antenna (such as is used on point to point links) has a much smaller terrain 'footprint' than a sector antenna . . . at the *same signal level*."²² Yet, Petitioners do not propose using the "same signal level." They actually seek a level 41 dB greater—*i.e.*, a 12,600 times greater signal level—but never explain the effect of that increase on interference to the DBS-consuming public. Grant of the requested waivers likely would interfere with DBS receivers, undermining the policy behind the rules, and thus is not in the public interest.

Second, the Petitioners fail to provide sufficient concrete information to meet their burden under the Commission's standard for waiver. Their "evidence" lacks link budgets at

²⁰ *WAIT Radio v. FCC*, 418 F.2d 1153, 1157, 1159 (D.C. Cir. 1969).

²¹ Waiver Request at 2.

²² Waiver Request at 3 (emphasis added).

various distances, maps, details about affected DBS antennas, the maximum radius of the affected zone, or other technical information that would explain how their use of the spectrum at the requested power levels would avoid interfering with DBS service. The waivers also lack sufficient documentation about antenna size—they propose using a 0.3 meter antenna²³ but nowhere explain why this size antenna was chosen or how its characteristics would help prevent harmful interference to consumer DBS receivers. With so little support, Petitioners have not come close to justifying such a dramatic departure from the existing rules.

Indeed, Petitioners fail to support their request with a technical demonstration of their equipment and technology. When the Commission adopted service rules for MVDDS in 2002, it specifically stated that “any entity seeking to employ a terrestrial service technology that does not comply with the technical rules must file a waiver petition, on which public comment will be sought.”²⁴ As part of that waiver process, “the entity must submit an independent technical demonstration of its equipment and technology.”²⁵ Here, Petitioners include only a brief statement from a technical consultant,²⁶ providing no detail about the proposed technology or equipment. Petitioners fail to meet the basic requirements for filing a waiver request under the *Second R&O* and therefore the waiver requests must be denied for this reason alone.

Third, the DISH experiment relied upon by the Petitioners²⁷ does not support the waivers they seek. DISH’s two-way, point-to-point use of MVDDS spectrum in the Cheyenne, Wyoming market²⁸ is inapposite for four reasons.

²³ See Waiver Supplement at 1-2.

²⁴ *Second R&O* ¶ 236.

²⁵ *Id.*

²⁶ Waiver Request at 5-8.

²⁷ Waiver Request at 4-5.

- DISH controlled all of the demonstration factors that could have impacted DBS reception, such as location, distance, and power levels.
- DISH tested a single link, not the unlimited number of point-to-point links requested by the Petitioners.²⁹
- Test results from a sparsely populated rural environment are indicative of only one type of coverage area where DBS consumer receivers are deployed. (Indeed, as DISH itself conceded, “[p]revention of interference depends not only on the system architecture, but also upon the topology and unique characteristics of the individual market, including population density, terrain, ground clutter, position of the backhaul towers, and look angle to the satellites.”³⁰)
- This experiment—unlike the MITRE testing that formed the basis for the existing rules—was not performed by a neutral third party. It was conducted by an entity which held MVDDS licenses and which might benefit from a change to the existing rules.

This isolated, controlled demonstration provides no basis for granting the 49 waiver requests, and similarly fails to prove that the huge power increases and two-way operations sought could be accomplished without undermining existing FCC rules and causing harmful interference to DBS customers in broad areas.

If the Commission does not deny the waiver requests outright, as it should, the Commission should, at a minimum, treat the requests as initial requests to coordinate with DBS. The Commission’s rules require MVDDS licensees to survey the area around its proposed transmitting antenna site to determine the location of all DBS customers of record that

²⁸ See ULS File No. 0006310688, DISH Network L.L.C. and South.com L.L.C., Public Interest Statement at 2-3, 11-15 (filed June 3, 2014) (“License Extension Public Interest Statement”); OET File No. 0864-EX-ST-2012, South.com, LLC, Application for Special Temporary Authority (filed Oct. 26, 2012).

²⁹ DISH’s experimental use of the MVDDS for a limited time in a limited area is more akin to a one-time demonstration than a true test of whether widespread use of MVDDS spectrum for two-way backhaul would cause interference to DBS services. Indeed, the experimental authorization issued to DISH’s subsidiary South.com L.L.C. expired in 2013. South.com has not filed for additional experimental authority since that time.

³⁰ License Extension Public Interest Statement at 2.

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